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Dairy Project Guide for South Dakota 4-H Club Members

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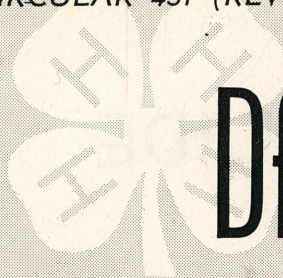
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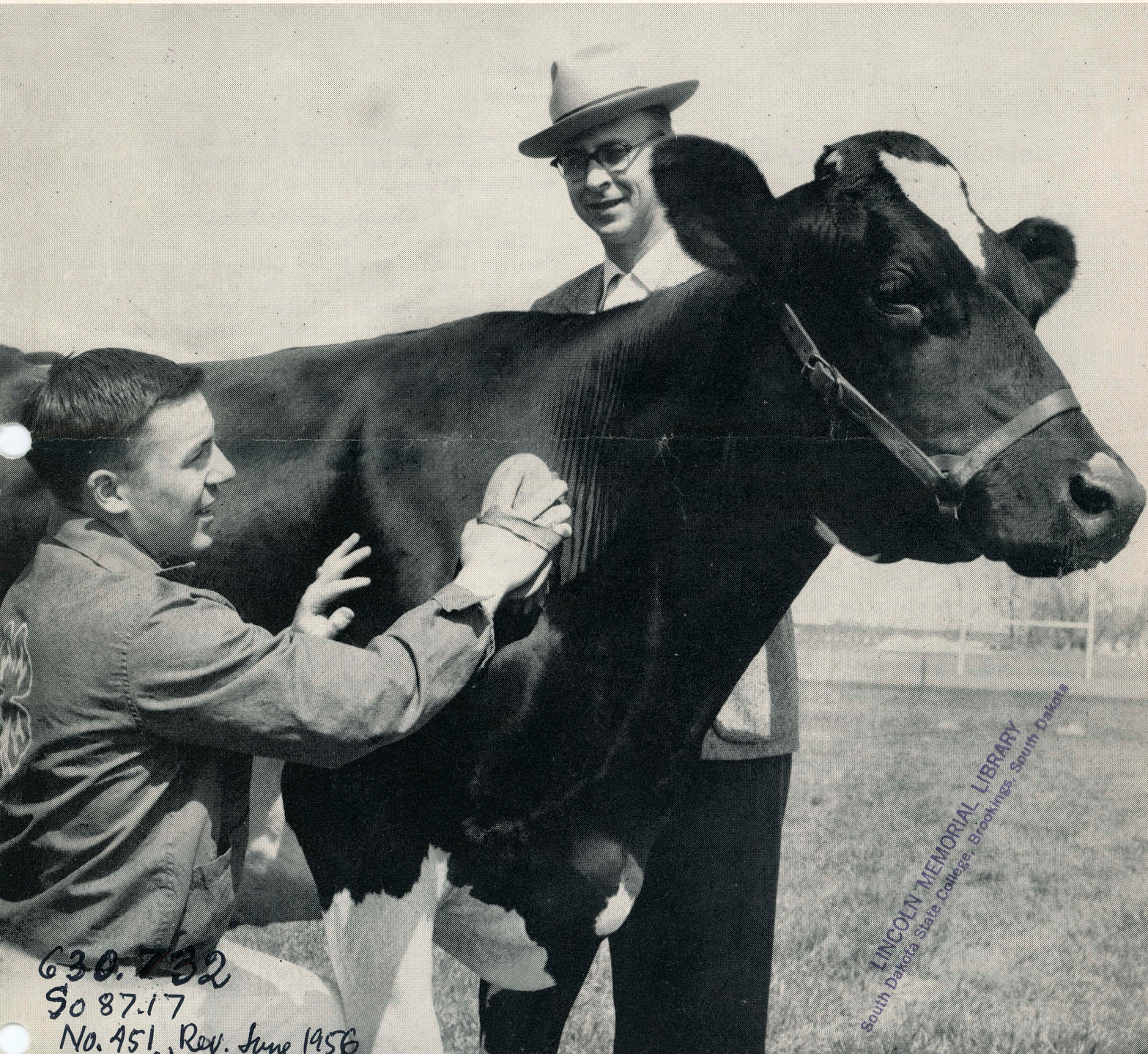
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DAIRY PROJECT GUIDE

FOR SOUTH DAKOTA 4-H CLUB MEMBERS



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DAIRY PROJECT GUIDE

For

S. D. 4-H Club Members

By ERVIN KURTZ
Extension Dairyman

Selecting The Dairy Club Heifer

Selecting and developing a good dairy heifer into a profitable, producing cow, gives the 4-H Club member valuable experience and confidence in his ability to do a job well.

Successful dairy club members are those who like their dairy heifers and are anxious to learn the best methods of feeding, training, showing and caring for them, in order to grow them into beautiful, high-producing cows that will return a steady income over a long period.

Dairying requires more intelligent and careful attention to details than any other kind of farming, but it is a lesser gamble because it brings in a regular income.

The club leader, county extension agent, or extension dairyman will be glad to help any member in finding a good dairy heifer.

Every dairy club member wants to select an outstanding heifer. It must be remembered that this cow will become the foundation of a future dairy herd. Whether that herd will consist of high-producing cows of good type depends to a large extent upon the first club heifer.

One of the worst mistakes a club member can make is to secure just an ordinary or even inferior heifer, for his dairy project. It will lead only to disappointment, discouragement and loss. Here are several factors to consider in selecting the club calf:

1. The Mother should be of good type and capable of producing 400 pounds of butterfat a year. She should also have several other daughters of good type and production.

2. The Sire should be of good type and have a number of other daughters with good type and production.

3. The Heifer itself should be of good type, i.e.—straight and strong in the top-line, deep and wide in the body, straight and square on its feet and legs and clean cut in head, neck and shoulders. There should be four, squarely placed, teats and loose folds of skin extending well up behind and well forward on the belly.

4. The Herd from which the heifer is selected should be healthy and free of disease.

Every club member should get the best heifer he can with the money he has to spend. By observing the points mentioned he can select a desirable animal.

Choosing a Dairy Breed

The common dairy breeds are Ayrshire, Brown Swiss, Guernsey, Holstein and Jersey. Each breed contains good cows and poor cows. The breed chosen is not as important as the factors mentioned in selecting the individual heifer.

A number of advantages exist in choosing a club heifer of the same breed as the home herd. If no definite dairy breed is kept on the home farm then it is well to select the dairy breed that is most common in the neighborhood.

Comparison of the Dairy Breeds

Holsteins, as a breed, give the most milk. Jerseys, as a breed, have the highest butterfat test. Holsteins and Brown Swiss are the largest and Jerseys the smallest of the dairy breeds. In early maturity the breeds would rank as follows: Jersey, Guernsey, Ayrshire, Holstein and Brown Swiss.

Brown Swiss and Ayrshires would probably rank first in ability to withstand adverse weather conditions.

Age of Heifer When Selected

It is probably best to select a calf born in the fall if possible. The calf can then run on pasture two summers before it freshens. It will also be at the right age to freshen in the fall. Fall calves show better than spring calves as they are older and have more size.

Heifers for 4-H dairy club projects can be of any age from young calves to bred heifers.

Brown Swiss



If a club member purchases a purebred calf he should make sure that the owner transfers the heifer to him and furnishes a registration certificate.

Young calves cost less and give the club member more experience in their care and feeding through development into a producing cow. On the other hand, it is hard to know what type of animal will develop from the small calf. The young calf is more likely to die than an older animal, and production and income will be delayed.

It is probably wisest to select a club heifer three months of age or older. At that age, the animal will not require milk and should be eating grain and hay satisfactorily. The club member will gain the experience of caring for a small calf when his heifer freshens.

Purebred or registered heifers cost more than grades but are preferred if the club member can afford it.

More production records are kept on purebreds than grades, therefore, production of the heifer's sisters, half sisters, and other relatives can be determined.

Purebreds furnish two sources of income: from milk and from sale as breeding stock.

Only purebreds can be shown in the open classes at the State Fair and large dairy shows.

No 4-H club member, however, should feel that he

The calf should be grown as rapidly as possible and with the lowest possible feed cost. Grain or ground feed must be fed in order to get good growth during the first year, since the calf's paunch is not large enough to contain very much hay, silage and other roughage. Calves that are well grown and thrifty at 12 months of age will make good growth in their second year on high quality hay silage and pasture, with little or no grain.

The following schedule of milk feeding is suggested for Holstein or Brown Swiss calves weighing 80 lbs. at



birth, when whole milk is marketed. Ayrshires, Guernseys and Jerseys would get less at the rate of one pound per day for each 10 pounds of live weight of the calf.

First week—Eight pounds whole milk per day in two or three feedings. This will include the feeding of colostrum milk from the mother the first three days.

Second week—Nine pounds of whole milk per day.

Third week—Ten pounds of whole milk per day.

Fourth week—Eight pounds milk, two pounds warm water per day.

Fifth week—Six pounds milk, four pounds warm water per day.

Sixth week—Four pounds milk, six pounds warm water per day.

Seventh week—Two pounds milk, eight pounds warm water per day. If the calf is small and weak it should get whole milk for a longer period of time.

Teach the calf to start eating calf meal and some good quality green, mixed hay at about 10 days of age. Gradually increase the daily allowance until it is cleaning up two pounds of calf meal and one pound of hay per day at eight weeks of age. Keep a pail of clean fresh water in the pen where the calf can drink at will.



An Inexpensive Blanket Will Keep Your Heifer Clean

Skimmilk Feeding

When cream is marketed and skimmilk is available, the whole milk can gradually be replaced by skimmilk during the fourth week. The calf will not need calf meal but can be started directly on grain mix.

Calves can be fed skimmilk until 8 to 10 months old if plenty is available.

If the hay received by both the cows and calves is not of first quality (green and leafy) it is advisable to feed one tablespoon of crude codliver oil each day in the milk or on the ground feed.

Feed at a regular time each day. Never make sudden changes in the feed or the temperature of the milk because it may upset the calf's digestion.

Eight Weeks to One Year

A heifer weaned from milk at eight weeks of age should continue to get calf meal until she's about five months old, when she can gradually change to the grain mix. Rate of feeding can be increased up to four or five pounds per day as she grows older.

Feed all the green leafy hay the calves will clean up each day. Feeding a mixture of alfalfa and grass hay up to two or three months of age may be better. After that, good quality, straight alfalfa is probably best.

Do not feed silage until the calf is at least four months old and then only two or three pounds a day. Silage can be increased a little each month as the calf grows older.

Do not pasture calves, except for exercise, before they are four months old; then continue to feed them the grain mix until they are at least a year old. If the pasture starts to dry up, increase the grain feed or give the calf all the green hay it will eat.

Always provide the calf with plenty of water and salt.

Twelve Months to Freshening

If the heifer is thrifty and well grown at one year old, it will make a satisfactory growth on good alfalfa hay and silage or good pasture up until a few weeks before freshening. Do not allow the heifer to get thin and run down. If the pastures dry up, or the hay is not of good quality, give her some good feed.

About three weeks before freshening start feeding the heifer four or five pounds a day of a mixture of 45 pounds ground oats, 45 pounds wheat bran and 10 pounds linseed meal with one pound of steamed bone meal and one pound of salt. Do not feed her any corn at this time.

Care at Calving Time

Calving time is always a critical period especially if the heifer is having her first calf.

The usual date for calving is 283 days after the heifer was bred. Check the breeding date to make sure when the calf should be born. About a week before freshening, place the heifer in a clean, disinfected, box stall or pen, that is well bedded. Make her comfortable and get her used to her surroundings. Leave her alone at calving time but watch her closely in case she needs some help.

After the calf is born, give the heifer a drink of warm water. Give her a bran mash made by pouring hot water over four or five pounds of bran.

Do not hurry to get her on full feed. Give her from five to eight pounds of mixture of half ground oats and half bran for several days. Then, if the swelling is out of her udder, gradually increase her feed until she is getting one pound of ground feed for each three or four pounds of milk per day.

Kind of Grain Feed

The kind of grain mixture to feed the heifer will depend on the kind of hay she is getting. With good alfalfa alone as roughage, very little protein concentrate is needed. A grain mixture of 900 pounds of farm grains such as corn and cob meal, ground oats and barley with 100 pounds of soybean oil meal or linseed meal would be satisfactory.

With good alfalfa and silage as roughage 200 pounds of soybean or linseed meal and 800 pounds of farm grains would make a good mixture. With no alfalfa or clover hay, the grain mixture should contain 100 pounds of soybean or linseed meal to each 300 pounds of ground farm grains.

One pound of salt and two pounds of steamed bone meal should be added to 100 pounds of mixed grain.

Amount of Grain to Feed

Amount of grain to feed a cow depends on her condition, amount of milk she is giving and the butterfat test.

As a general rule for winter feeding, give each Holstein or Brown Swiss cow one pound of grain for every four pounds of milk she produces each day. For example, a cow giving 40 pounds of milk a day would get 10 pounds

of grain, or five pounds at each feeding. If the roughage is poor quality or the cow is thin, feed one pound of grain to three of milk. Jerseys and Guernseys should get one pound of grain for each three pounds of milk or one of grain to two of milk—if cow is thin or roughage is poor.

Feeding on Pasture

A cow grazing on excellent pasture can give 40 pounds of milk a day without grain. She will have to eat 150 pounds of grass a day. However, she will probably not eat that much unless the pasture is of top quality.

A good plan is to feed one pound of grain to six or eight pounds of milk and to provide hay in a rack so the cows will be sure to get plenty of feed in case pastures dry up or get mature and unpalatable.

Never feed every cow the same amount of grain regardless of the amount of milk produced. Good producers do not get enough and decline in their milk flow. Poor milkers get more than they need and become fat.

A good-producing cow will need from 2,000 to 2,500 pounds of ground feed in a year, one and one-half to two tons of good quality hay (alfalfa if possible) and three tons of silage. If no silage is fed, she will need two and one-half to three tons of hay.

A good rule in feeding hay is to allow two to two and one-half pounds of hay per day for each 100 pounds of live weight. Three pounds of silage is equal in feeding value to one pound of hay.

Breeding The Club Heifer

Great care must be used to keep the club heifer from getting bred too young an age, to a scrub bull, or to a bull of another breed.

If possible, breed her to a bull proven to transmit good type and high production. This means a bull whose daughters are of good type and are higher producers than their mothers. If a proven bull is not available, then try to breed her to the son of a proven bull.

If a club member lives in an area served by an artificial breeding association, he can arrange to have his heifer bred artificially.

Bulls owned by the artificial breeding association have been very carefully selected for type and production and many of them are proven.

Age to Breed

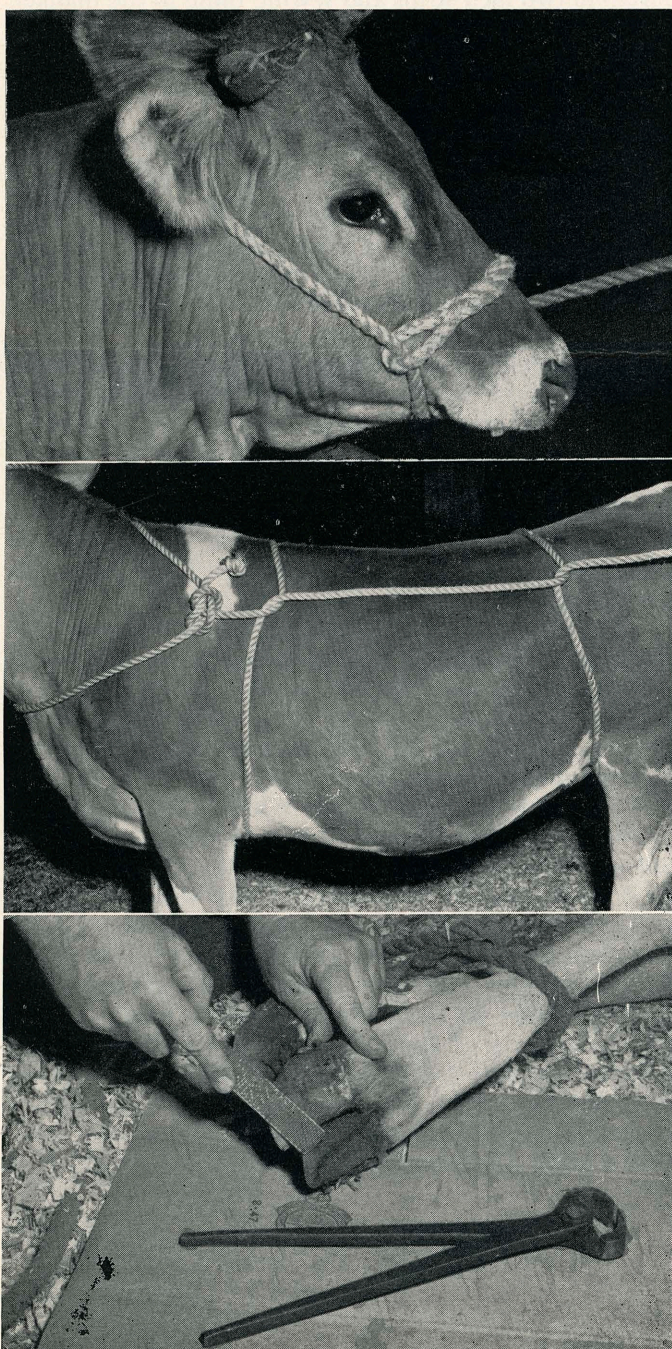
Well-grown Brown Swiss and Holstein heifers can be bred at 18 to 20 months of age, Jerseys and Guernseys at 16 to 18 months of age. Records should be kept of breeding date, name and registration number of the bull.

If the heifer is purebred, consult a breeder or the county extension agent about making out an application for registering her calf.

Management

It is advisable to have the heifer officially vaccinated against Brucellosis by a veterinarian, when she is between four and eight months of age.

TOP: This Is the Proper Way to Lead With a Rope Halter. CENTER: Proper Arrangement of the Rope to throw the Animal. BOTTOM: Trimming the Feet.



Remove extra teats before the heifer is six months old. A good way to get rid of the extra teats is to tie a piece of string tightly or slip a rubber band around the teat at the point where it is attached to the udder. This cuts off the supply of blood and the teat will dry up and drop off. You can also use a pair of clippers but if you do, be sure to swab the cut area with iodine.

Keep the heifer's pen clean, dry and well bedded; clean her feed box often and provide a rack for hay. Teach the heifer to lead and give her plenty of exercise.

Fitting and Showing Dairy Calves

Boys and girls in 4-H dairy clubs can get a lot of fun out of fitting and showing their club heifers. It will take time, patience and kindness, but when you lead a beautiful heifer into the show ring, on Achievement Day or at the State Fair, you will say it was worth all the work.

When to start—Six to eight weeks is required for you to get your calf in shape, to show at her best.

Feeding—To show in good flesh, your calf will need to be fed a good grain ration for about eight weeks. A satisfactory mixture may consist of 100 lbs. of ground corn; 100 lbs. of ground oats; 100 lbs. bran, and 25 lbs. linseed meal. Salt can be provided in a box or about one pound mixed with each 100 pounds of grain mixture. Amount to feed will depend upon the size of the calf and its condition. Dairy calves and heifers should be in good flesh but never fat. Many 4-H dairy heifers are criticized because of their lack of dairy character which can result in poor mammary development of the mature cow.

Give your calf all the fresh, leafy hay she will eat. She should have plenty of water. Give her water and grain from a pail since she will be fed that way at the show.

Training to Lead—The first step in fitting and training your calf is to make a rope halter. The club leader or county extension agent can show you how. Next, secure her in a clean-bedded stall in the barn. She will soon learn what the halter means and then you can begin to train her to lead. Teach her to walk stylishly with her head up, and to stand quietly and squarely on her feet.

Washing—Wash your calf thoroughly four to six weeks before show time. First, get her soaking wet, then rub her coat with good lathering soap, such as tar or other mild soap. Do not be afraid to scrub her good until her skin and hair are clean. After scrubbing, rinse her well with good clean water until the soap is all washed out. To dry her, rub downward with your hand in the direction the hair lies.

Clipping—It is not desirable to clip the entire animal. Clip the head and neck and as far back as the point of the shoulders. Clip the tail from a point just above the switch to the tail setting. Blending may be accomplished by running the clippers in the same direction the hair grows. The udder and belly of cows look best when clipped, but not on younger animals.

The animal will show to an advantage if clipped at the beginning of the fitting period—four to six weeks

before the first show—and then again one or two days before going into the ring.

Blanketing—After your heifer is washed and dry, blanket her and keep the blanket on her during the entire fitting period, except when you are leading her, or when she is out for exercise in the evening. Remember, the hot sun will bleach her hair and dry out her skin.

Burlap feed sacks or a large piece of burlap from the furniture store will make satisfactory blankets. To make a burlap blanket, measure the length along the back line from just in front of the shoulders to the base of the tail. This measurement will be the length of the blanket. The width will be twice the distance from the top of the shoulders to a point on the front leg, even with the underline of the calf. A few inches should be allowed for seams and the cut-out to fit the neck.

A piece of burlap cut according to the illustration will be satisfactory. Straps for tying can be made by folding burlap in two inch strips and sewing these to the blanket.

Trimming the Feet—About the time you start fitting your calf you should trim its feet. Lay the calf on its side by using a rope with a half-hitch around the body. Level the soles with a sharp knife, round the hoofs neatly but be careful not to cut deeply enough to bring the blood as this will make the calf lame. Tools that help are, hoof nippers, rasp, knife and possibly a chisel.

Care of the Horns—If your calf has horns, smooth them down with a rasp, scrape them with a piece of broken glass and smooth them again with sandpaper. You will not need to polish the horns until the day of the show.

Grooming—If you want your calf to shine on show day, you should spend time each day by brushing with a soft brush and rubbing down on its coat with your hands. The daily routine should also include leading and training the calf to show to best advantage.

The dairy animal should be washed again the day before the show, using a few drops of bluing in the rinse water. Stains may be removed with a bleaching agent but do not use to excess.

Care of the Switch—The night before the show wash the switch thoroughly with soap and rinse well using bluing in the water. After it is washed, braid it into several braids and wrap a cloth around the whole switch. Shake the switch out the next morning. Then, just before showing time, comb it out.

Conduct in the Show Ring—While in the ring, watch the judge closely and follow his instructions. Keep your calf showing to the best advantage every minute. Be a good sportsman, do your best and take whatever honors you get, modestly. There is a lot of satisfaction in winning, but, if you do not win, showing anger lowers you in the eyes of other exhibitors, as well as the spectators.

Preparation on Show Morning—Keep your calf hungry the morning of show day and feed it about an hour before show time. Let it drink just before going into the ring, but be careful that she doesn't drink enough to appear bloated. Wipe the calf's coat, horns, and hoofs with a cloth dampened in olive oil just before showing.

Production Records

In order to improve his herd, a dairyman needs to know how much milk and butterfat each cow produces each year. He can then cull out his low-producing cows, save heifers from his high-producing cows and prove his herd bull by comparing the records of his daughters with their dams.

Production records are very important as a basis for herd improvement. There are four kinds of dairy production records as follows—Advanced Registry records, Herd Improvement Registry, Dairy Herd Improvement Association records, and private records. The first two are usually spoken of as official records, since they are made under the supervision of the dairy breed associations and the state colleges, and are published by the breed associations.

Judging Dairy Cattle

Members of dairy clubs have a splendid opportunity to learn how to judge dairy cattle. It takes hard work, careful study, and much practice to become a good dairy judge. Judging develops independent thinking, keen observation, and careful balancing of the good points and weakness of each animal.

The ability to do a good job of judging dairy cattle is a valuable asset to a dairy club member, a dairy farmer,

or breeder. For a beginner, the first thing to do is to learn the name and location of the parts of a dairy animal, as well as the terms and phrases used in comparing them.

Next, study the score card. This will help you understand the relative importance of each part of the body.

Study pictures of cows of the different breeds which have been classified excellent. (See pages 2 and 3.)

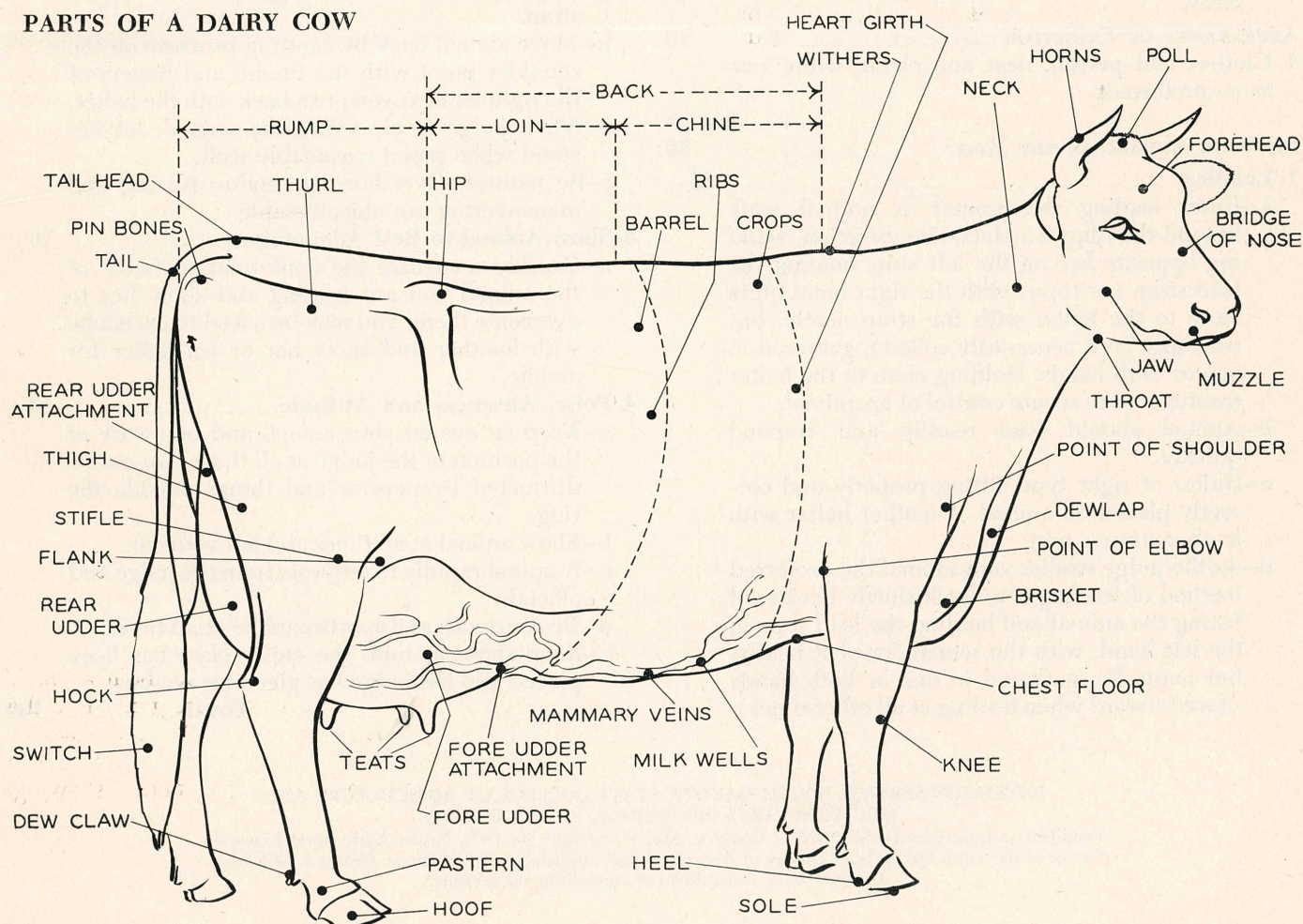
In judging dairy cattle, your decision must be made on what you see. The animal should be observed from a distance to note its general appearance, symmetry, and balance. Notice the straightness of topline, depth of body, heart girth, length and levelness of rump, straightness of legs and shape and size of udder. From a rear view you can see the rear udder attachment, width of loin, hips, thurls and pin bones, and also the spring of rib. Closer observation enables you to study the udder attachment, teat placement and quality of udder. Strength of udder attachments, body capacity and breed type need special attention.

Registration

Each club member with a purebred dairy calf should learn how to fill out an application blank for registering his calf. He should also know how to fill out an application for transfer in case he sells his calf.

Write the breed association for these blanks. Your county extension agent can give you the address.

PARTS OF A DAIRY COW



Showmanship Score Card

Fitting and showmanship contests have become so popular and competition so keen, that a score card has been developed by the Purebred Dairy Cattle Association, as follows:

APPEARANCE OF ANIMAL	POINTS
1. Condition and thriftiness, showing normal growth, being neither too fat nor too thin	10
2. Grooming	10
a—Hair properly groomed and the hide soft and pliable. Hair dresser should not be used in excess	
b—Hoofs trimmed and shaped to enable animal to walk and stand naturally.	
c—Horns (if present) scraped and polished.	
3. Clipping	10
a—The final clipping should be done about two days before show.	
b—Head, ears, tail, udder and elsewhere clipped as needed but not over entire body. Belly and udder not to be clipped on heifers that have not freshened and are not springing close.	
4. Cleanliness	10
a—Hair and switch clean and if possible free from stains.	
b—Hide and ears free of dirt, and legs and feet clean.	
APPEARANCE OF EXHIBITOR	10
1. Clothes and person, neat and clean; white costume preferred.	
SHOWING ANIMAL IN THE RING	50
1. Leading	15
a—Enter leading the animal at normal walk around the ring in a clockwise direction, walking opposite her on the left side, holding the lead strap (or rope) with the right hand quite close to the halter with the strap neatly, but naturally (not necessarily coiled), gathered in one or both hands. Holding close to the halter insures a more secure control of an animal.	
b—Animal should lead readily and respond quickly.	
c—Halter of right type, fitting properly and correctly placed on animal. A leather halter with leather strap is best.	
d—As the judge studies your animal the preferred method of leading is to walk slowly backward facing the animal and holding the lead rope in the left hand, with the remainder of it neatly, but naturally, gathered in one or both hands (face forward when leading at all other times).	

e—Lead slowly with animal's head held high enough for impressive style, attractive carriage and graceful walk.	
2. Posing	15
a—When posing and showing an animal stay on the animal's left side and stand faced at an angle to her in a position far enough away to see stance of her feet and her topline.	
b—Pose animal with feet placed squarely under her with the hind leg nearest to the judge slightly behind the other one.	
c—Face animal up-grade, if possible, with her front feet on a slight incline.	
d—Neither crowd the exhibitor next to you nor leave enough space for another animal when you lead into a side-by-side position.	
e—Animal may be backed out of line when judge requests that her placing be changed. Many prefer to lead animal forward and around the end of the line or back through the line. Do not lead animal between the judge and an animal he is observing.	
f—Do most of the showing with the halter lead strap and avoid stepping on animal's hind feet to move them.	
g—Step animal ahead by a slight pull on the lead strap.	
h—Move animal back by exerting pressure on the shoulder point with the thumb and fingers of the right hand as you push back with the halter.	
i—When judge is observing the animal, let her stand when posed reasonably well.	
j—Be natural. Overshowing, undue fussing and maneuvering are objectionable.	
3. Show Animal to Best Advantage	10
a—Quickly recognize the conformation faults of the animal you are leading and show her to overcome them. You may be asked to exchange with another and show her or his heifer for awhile.	
4. Poise, Alertness and Attitude	10
a—Keep an eye on your animal and be aware of the position of the judge at all times. Do not be distracted by persons and things outside the ring.	
b—Show animal at all times and not yourself.	
c—Respond rapidly to requests from the judge and officials.	
d—Be courteous and sportsmanlike at all times.	
e—Keep showing until the entire class has been placed and the judge has given his reasons.	

TOTAL 100

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